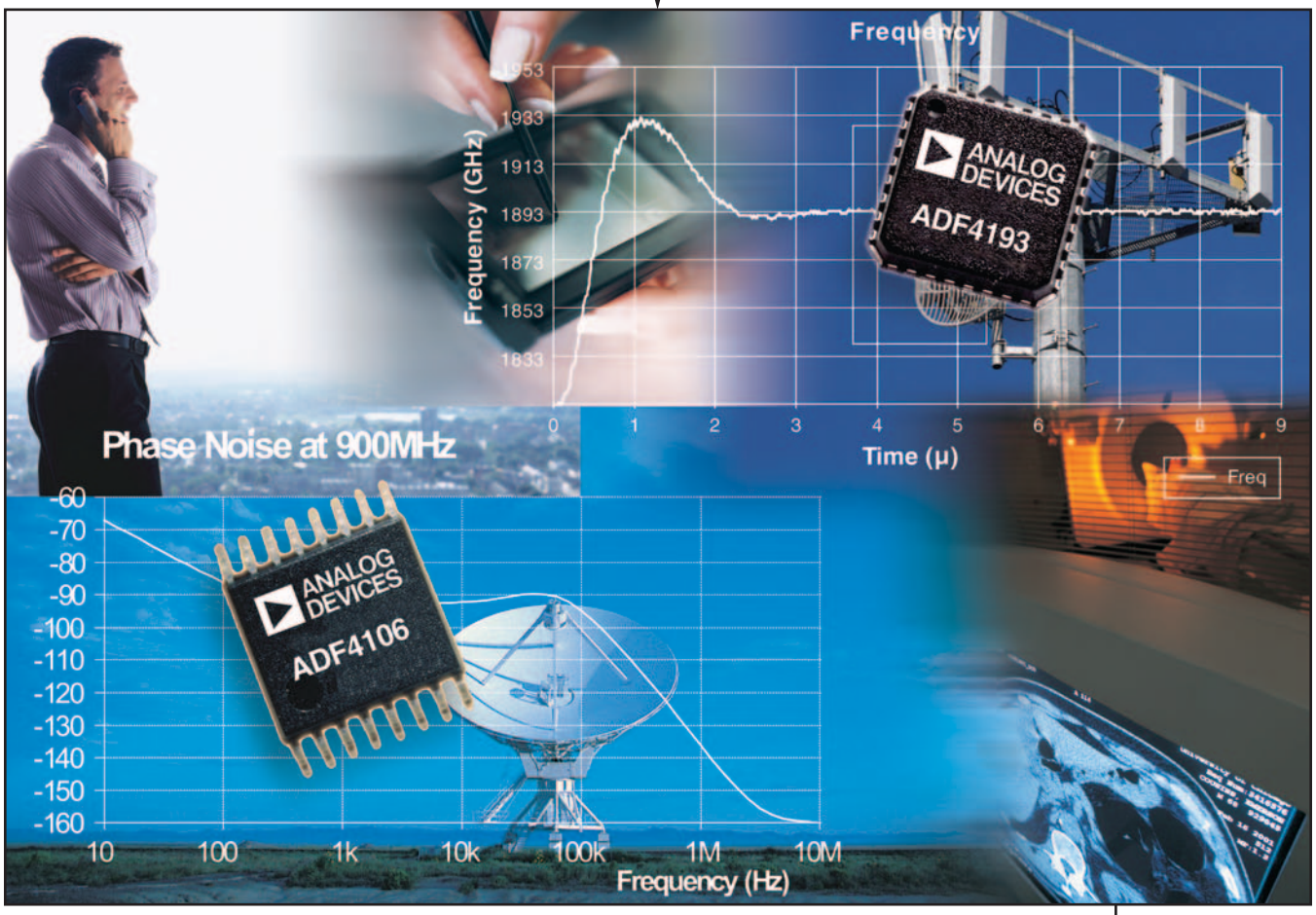
PLLs/Synthesizers

Best-in-class phase noise performance (–219 dBc/Hz)
Fastest switching fractional-N PLL (less than 20 µs)
PLL with integrated VCO
Operation to 7.5 GHz



- Wireless base stations: GSM/EDGE, 3G WCDMA, WiMAX, PDC, PHS
- Point-to-point cellular radio links
- Clock generation
- Low jitter clocks for ADCs/DACs
- Instrumentation PLLs
- Private mobile radio systems
- Fixed frequency LO signals

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ANALOG DEVICES

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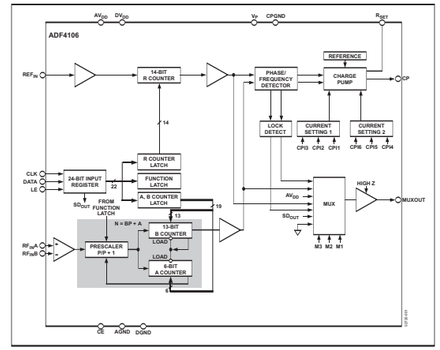
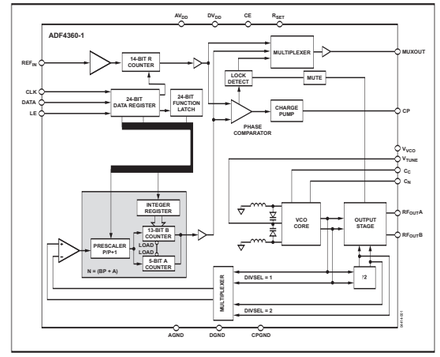
Analog Devices PLL/Synthesizer Product Selection Table

Single RF PLLs

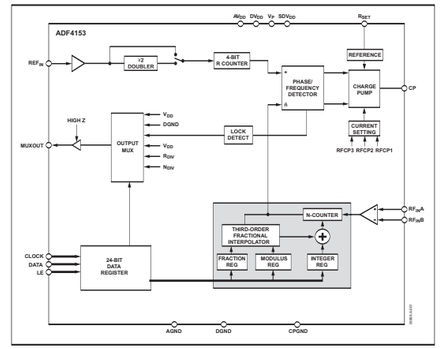
PLL Type	ADI Model	2nd Source	Status	Maximum RF Input (MHz)	Normalized Phase Noise (dBc/Hz)	Maximum REFIN Frequency (MHz)	Current (mA)	Package (RoHS Compliant)	Package (RoHS Compliant)	Application Recommendations	Recommended for New Designs
Int-N	AD809	Proprietary	Released	155.52	1.6 deg rms	19.44	17	SOIC-16	—	SONET/SDH/Fiber systems	✓
Int-N	ADF4001	Proprietary	Released	200	–214	104	4.5	TSSOP-16	CSP-20	High speed clocking applications	✓
Int-N	ADF4007	Proprietary	Released	7,500	–219	240	13	CSP-20	—	Fixed frequency and divider applications	✓
Int-N	ADF4110	Proprietary	Released	550	–215	104	4.5	TSSOP-16	CSP-20	ADF4106 suggested for new designs	
Int-N	ADF4111	Proprietary	Released	1,200	–215	104	4.5	TSSOP-16	CSP-20	ADF4106 suggested for new designs	
Int-N	ADF4112	Proprietary	Released	3,000	–215	104	6.5	TSSOP-16	CSP-20	ADF4106 suggested for new designs	
Int-N	ADF4113	Proprietary	Released	4,000	–215	104	8.5	TSSOP-16	CSP-20	ADF4106 suggested for new designs	
Int-N	ADF4106	Proprietary	Released	6,000	–219	300	13	TSSOP-16	CSP-20	Best int-N phase noise, recommended for new designs	✓
Int-N	ADF4107	Proprietary	Released	7,000	–219	250	13	TSSOP-16	CSP-20	Best int-N phase noise, recommended for new designs	✓
Int-N	ADF4116	LMX2306TM	Released	550	–211	100	4.5	TSSOP-16	—	4 dB to 6 dB phase noise better than competition	✓
Int-N	ADF4117	LMX2316TM	Released	1,200	–213	100	4.5	TSSOP-16	—	4 dB to 6 dB phase noise better than competition	✓
Int-N	ADF4118	LMX2326TM	Released	3,000	–216	100	6.5	TSSOP-16	—	4 dB to 6 dB phase noise better than competition	✓
Frac-N	ADF4153	Proprietary	Released	4,000	–213	250	12	TSSOP-16	CSP-20	ADF4113/ADF4106 pin-compatible frac-N upgrade	✓
Frac-N	ADF4154	Proprietary	Released	4,000	–213	250	12	TSSOP-16	CSP-20	ADF4153 frac-N with fastlock feature	✓
Frac-N	ADF4156	Proprietary	Samples Q106	6,000	–213	250	12	TSSOP-16	CSP-20	Upgrade ADF4153 frac-N to 6 GHz operation	✓
Frac-N	ADF4193	Proprietary	Released	3,500	–216	300	68	CSP-32	—	Ultrafast settling PLL	✓
Int-N HV	ADF4113HV	Proprietary	Samples Q106	4,000	–215	104	8.5	TSSOP-16	CSP-20	ADF4113 with HV charge pump	✓





Single RF Synthesizers

PLL Type	Integrated Synthesizer/VCO	2nd Source	Status	Frequency Range (MHz)	Normalized Phase Noise (dBc/Hz)	Phase Noise @ 1 kHz Offset, 200 kHz Channel Spacing (dBc/Hz)	Phase Noise Frequency (MHz)	Maximum REFIN Frequency (MHz)	Programmable Power Consumption (mA)	Output Power (dBm)	Package (RoHS Compliant)	Inductor	Comments	Recommended for New Designs
Int-N	ADF4360-0	Proprietary	Released	2,450 to 2,725	–217	–79	2,500	250	25 to 50	–13 to –3	CSP-24	Internal		✓
Int-N	ADF4360-1	Proprietary	Released	2,050 to 2,450	–217	–80	2,250	250	25 to 50	–13 to –3	CSP-24	Internal		✓
Int-N	ADF4360-2	Proprietary	Released	1,850 to 2,150	–217	–83	2,000	250	25 to 50	–12 to –3	CSP-24	Internal		✓
Int-N	ADF4360-3	Proprietary	Released	1,600 to 1,950	–217	–84	1,800	250	25 to 50	–12 to –3	CSP-24	Internal		✓
Int-N	ADF4360-4	Proprietary	Released	1,450 to 1,750	–217	–85	1,600	250	25 to 50	–13 to –4	CSP-24	Internal		✓
Int-N	ADF4360-5	Proprietary	Released	1,200 to 1,400	–217	–87	1,300	250	25 to 45	–13 to –4	CSP-24	Internal		✓
Int-N	ADF4360-6	Proprietary	Released	1,050 to 1,250	–217	–89	1,150	250	25 to 45	–13 to –4	CSP-24	Internal		✓
Int-N	ADF4360-7	Proprietary	Released	350 to 1,800	–217	–92	900	250	25 to 45	–13 to –4	CSP-24	External	Center frequency set by external inductors	✓
Int-N	ADF4360-8	Proprietary	Released	65 to 400	–217	–103	200	250	20 to 40	–13 to –4	CSP-24	External	Center frequency set by external inductors	✓



Dual RF/IF PLLs

PLL Type	ADI Model	2nd Source	Status	Maximum RF Input (MHz)	Normalized Phase Noise (dBc/Hz)	Phase Noise @ 1 kHz Offset, 200 kHz Channel Spacing (dBc/Hz)	Phase Noise Frequency (MHz)	Maximum REFIN Frequency (MHz)	Current (mA)	Package (RoHS Compliant)	Package (RoHS Compliant)	Comments	Recommended for New Designs
Int-N	ADF4212L	Proprietary	Released	2,400	–215	–91	900	115	6.0	TSSOP-20	CSP-20	Int-N RF/Int-N IF	✓
Int-N	ADF4218L	LMX2331LTM	Released	3,000	–216	–90	900	110	7	TSSOP-20	—	Not recommended for new designs	
Frac-N	ADF4252	Proprietary	Released	3,000	–214	–103	1,740	150	12	CSP-24	—	Premium frac-N RF/Int-N IF	✓

NOTE: The synthesizer normalized phase noise floor is estimated by measuring the in-band phase noise at the output of the VCO and subtracting 20 log N (where N is the N divider value) and 10 log FPFD (where FPFD is the phase comparator frequency); i.e., PNSYNTH = PNTOT – 10 log FPFD – 20 log N.

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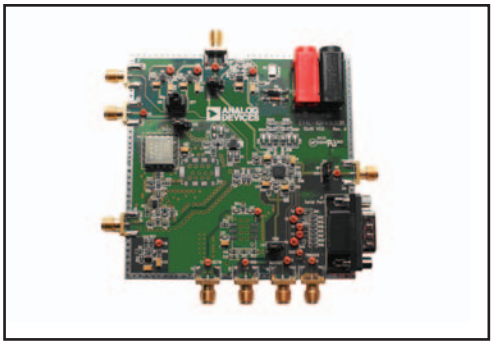

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